

Network Force Management Analysis (FORMAL) Review

MG Conrad W. Ponder Jr.
Army CIO/G-6



Agenda

- **Purpose**
- **Bottom Line**
- **Setting the Stage**
- **Insights**
- **The Army's LandWarNet**
 - **Joint Enablers**
 - **Sustaining Base**
 - **Operational / Tactical**
- **Consolidated Analysis**
- **Summary**

Purpose

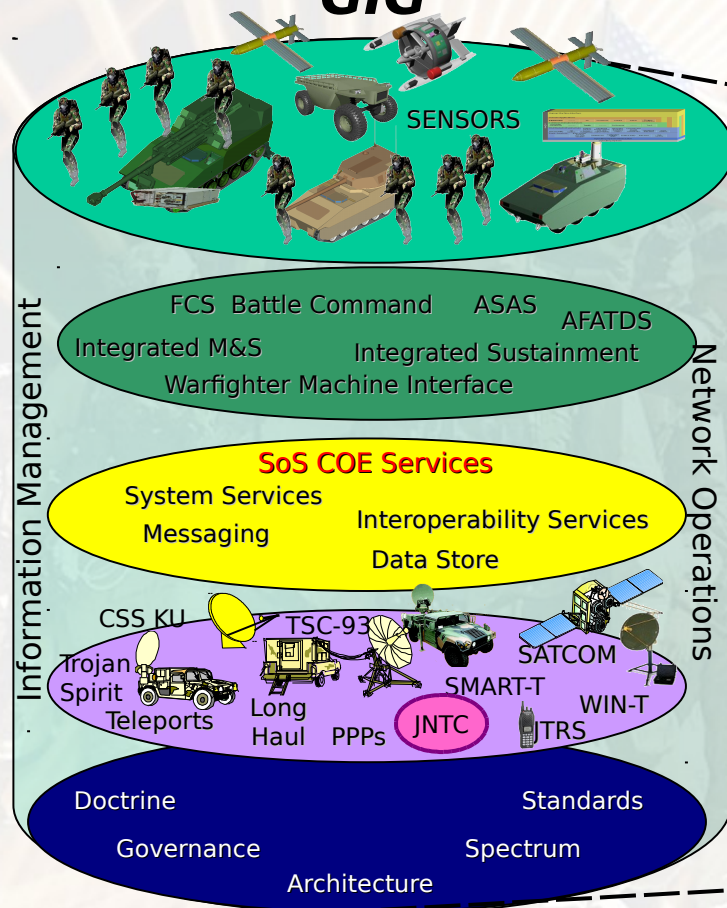
Provide the findings of the Network Force Management Analysis (FORMAL) Assessment of the Network relative to POM FY06-11 / Supplementals.

Specific focus on network capabilities, transport and services

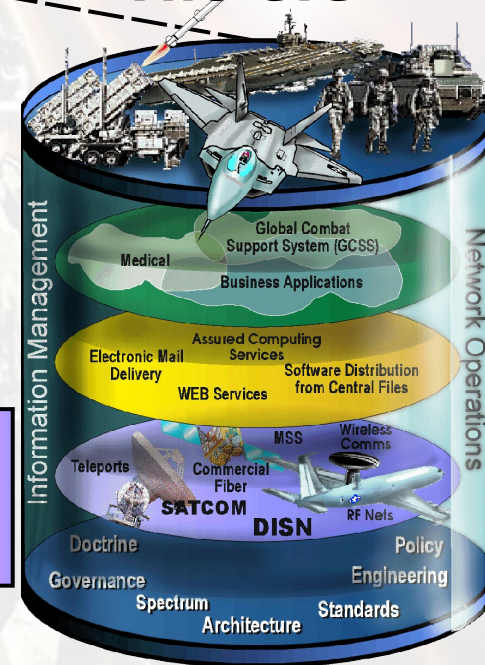
Foxhole to Factory

Network FORMAL

LandWarNet Approach The Army's Portion of the **GIG**



The GIG



**Focus of the
Network
FORMAL**

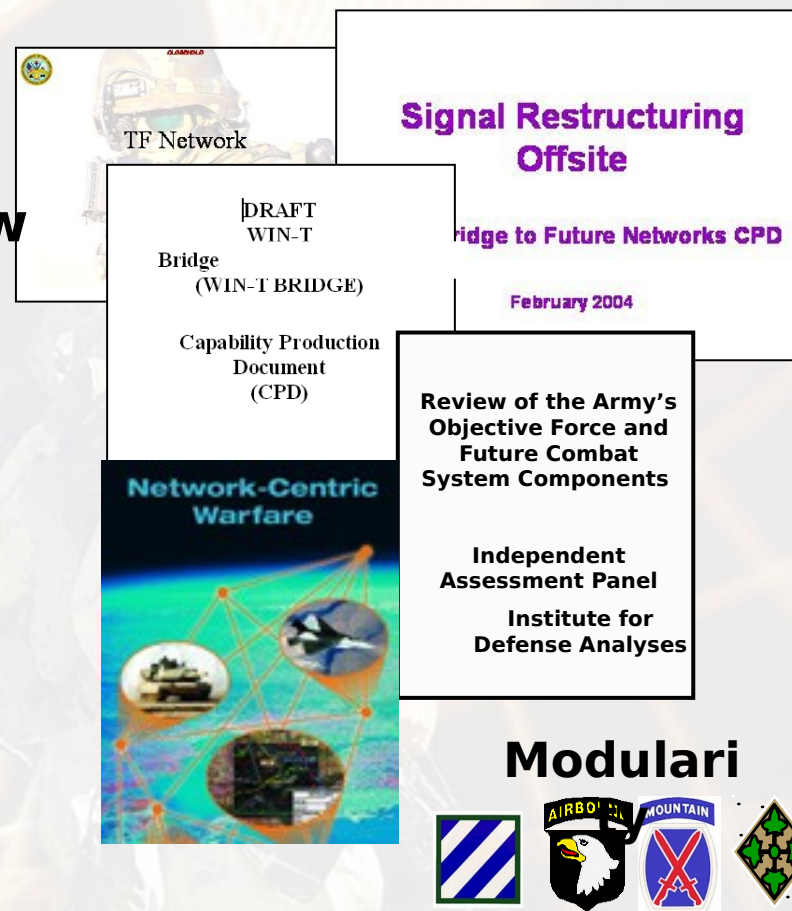
Transport Layer ~ consisting of communications systems, networks, transport services, and associated technologies (hardware and software) that enables *sending and receiving* information

Bottom Line

- The network is aligned to the Army Campaign Plan
- UEx and below: resourced at the critical "Bare-Bones + option" --- *Pending POM/Supplemental decisions*
- UEy and above functional analysis and resourcing --- still under review
- Information Assurance (IA) funding requirements will continue to grow with threat & network expansion
- Joint Enterprise "enablers" continue to apply resource pressure (e.g., GIG-BE, Teleport, etc)

Setting the Stage . . .

- **Army Campaign Plan / Army Over Time (schedule)**
- **Battle Command Good-Enough / ACR Networks Review**
- **Review of Army Objective Force and Future Combat System Components**
- **Joint NetOps/CONOPS signed 20 Apr 04 - Cdr, STRATCOM**
- **USAR - June '03 / ARNG - Sep '03 MOA ...networks as an Enterprise**
- **GO #3 (CIO/G-6 & Clinger-Cohen Act responsibilities - 9 July 02)**





Insights...



Excerpts from the V Corps' Battle Command White Paper

The Network

- Army Battle Command (BC) Must Be Joint — in Its Equipment, Its Information Systems, Its Practices.
- Immediate Fielding of a Common DOD, Joint, Deployable Network.
- Must provide Joint services, e.g. Red Phone (DRSN), DSN, VTC, JWICS
- Must Provide Uninterrupted Support for Logistics, Admin, Medical, Intelligence, Multi-echelon Collaboration, and Rear Detachment

Joint Direction

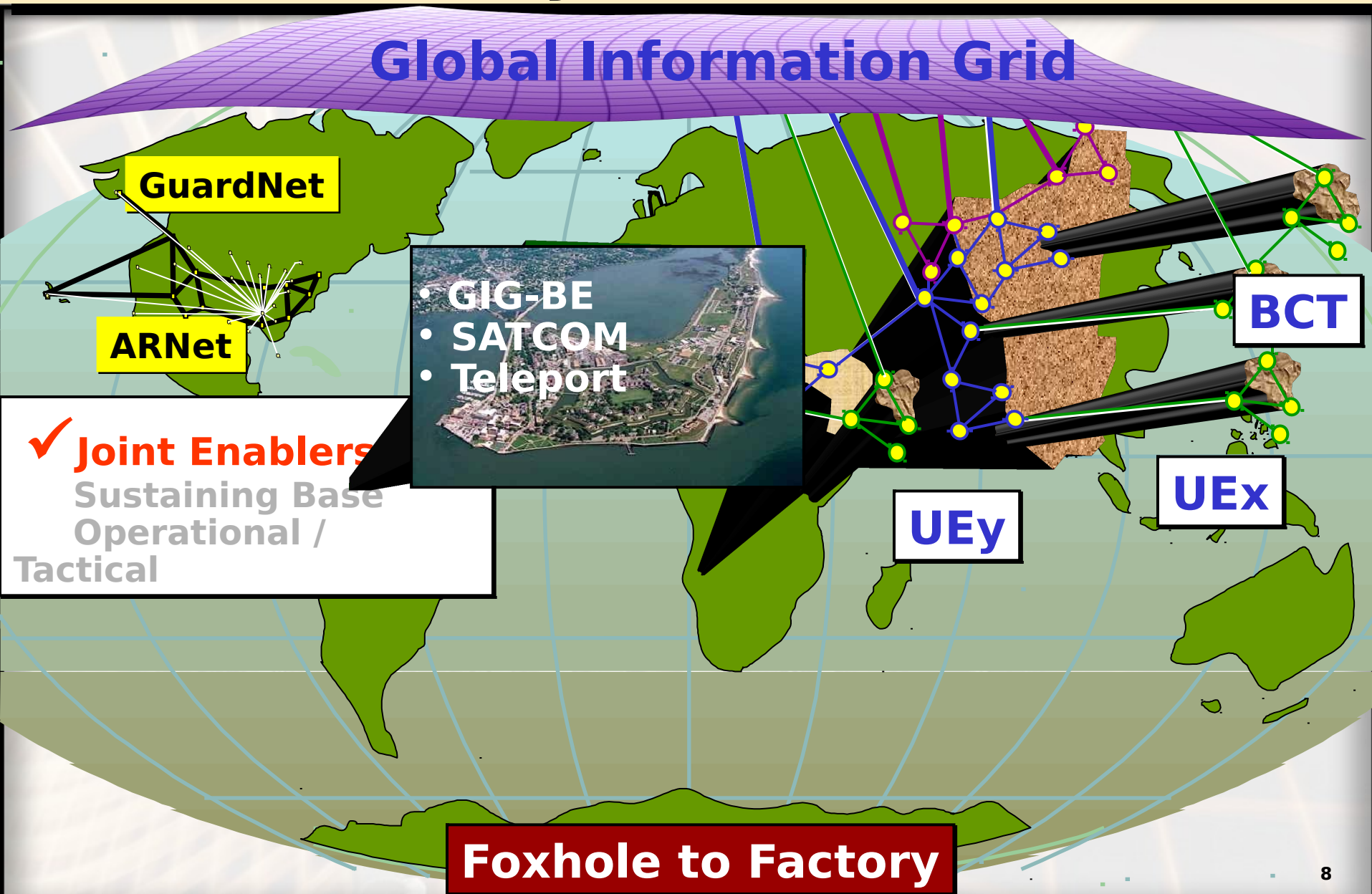
- Network Oversight: Cdr, STRATCOM – *Signed Memo, 20 Apr*
- Task Force-Global Network Operations: DISA 3-star command

SecDef Signed Memo, 14

June

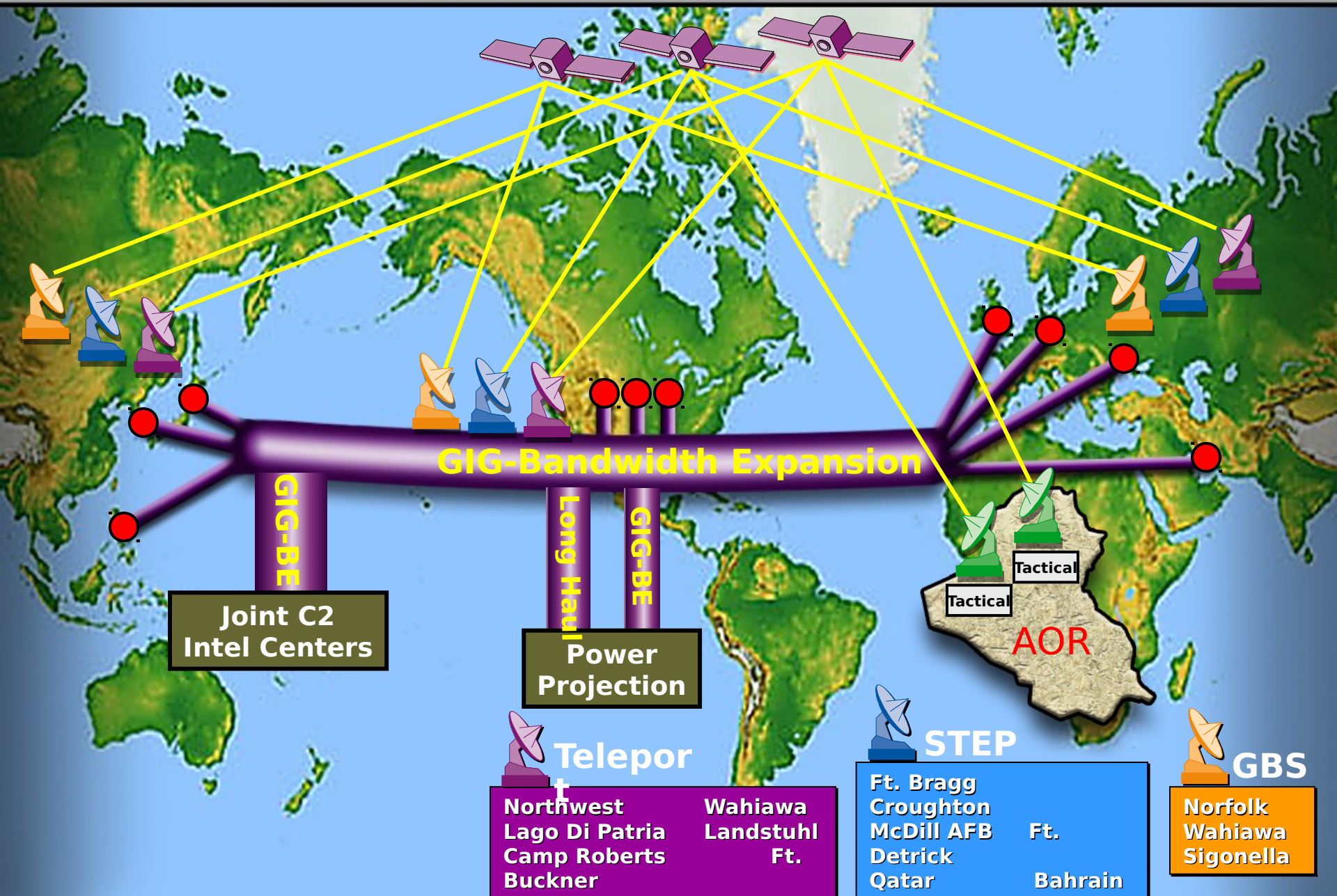
The Army's LandWarNet

Global Information Grid





Joint Enablers



Joint Enabler: GIG-Bandwidth Expansion

Program Capability: Provides ubiquitous, secure, robust network connectivity for Joint C2 locations and Intel Centers



Capability

Challenge

Extending to Additional Points of Presence

Recurring Sustainment
\$93M (DoD)
Now \$13M (DOD)
OMA (~\$5M/FY07)

Legend: **G** Meets required capabilities
A Partially meets required capabilities
R Doesn't meet required capabilities

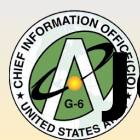
Does:

- Fund increased access points (95 of 700) CJCS-J6 approved Joint C2 and Intel Centers

Does Not (Risk):

- Fund increased bandwidth at all Power Projection Platforms
- Fund increased bandwidth at major CSS locations

Power Projection Platform requirements will drive bandwidth demand...



Joint Enabler: Satellite Communications

2004

2006

2007

2008

Data/Voice/Video
(Minimal)

Commercial

DSCS

UFO

MILSTAR

(Protected Comms)

Wideband
Gapfiller
Satellites

COTM
10 X DSCS
Bandwidth

Advanced Extremely High
Frequency
Satellites
(Protected Comms)

... Slipped from Dec 06 to Apr 07

Mobile User
Objective System
Satellites
(Voice/Data)

Increased
Voice/Data
Capacity

Transformational
Communications
MILSATCOM

Objective
COTM

Delivery Schedule **Critical** to Supporting the Warfight

Commercial
Based



Commercial/MILSATCOM
Based



WGS Acquisition Responsibilities

Army - Teleport Upgrade, Satellite
Payload and Network Control
USAF - Satellites and Satellite
Platform Control

Current \approx 80% Commercial
SWA \approx 20% Military

Objective \approx 80% Military
 \approx 20% Commercial

STEP
(Military)

Teleport (Military/Commercial)

Joint Enabler: Teleport

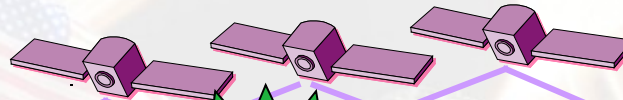
Program Capability: Satellite terminals supporting the Teleport program and the Wideband Gapfiller Satellites (Ka-STARs)



Ft Buckner-Okinawa
Cp Roberts, California



Landstuhl-Germany



**Funded
Across
POM**

Capability

Legend: **G** Meets required capabilities
A Partially meets required capabilities
R Doesn't meet required capabilities

Does:

- support validated O&M of Teleport terminal sites in CONUS, Germany, and Okinawa
- save resources thru decreased dependency on commercial SATCOM

Global Reachback ...Critical to Warfighter Support...

The Army's LandWarNet

Global Information Grid

GuardNet

ARNet

Joint Enablers
✓ **Sustaining Base**
Operational /
Tactical

- Long Haul
- Power Projection
Platforms
- AKO
- Information Assurance

UEy

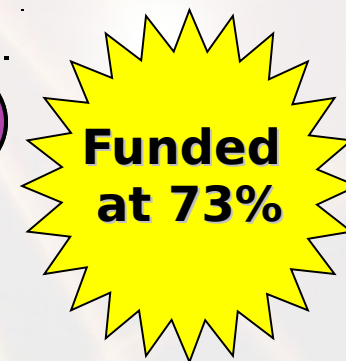
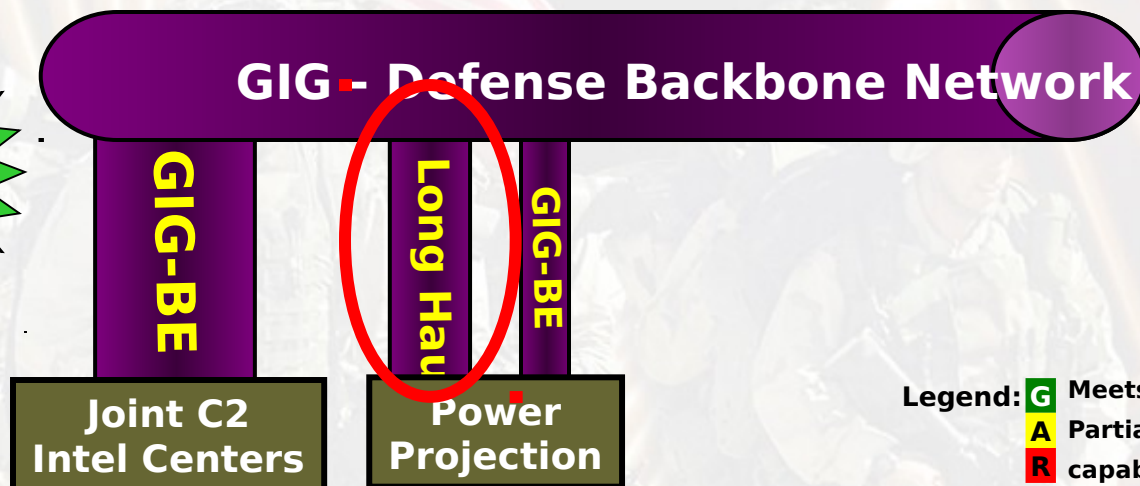
BCT

UEx

Foxhole to Factory

Long Haul

Program Capability: Provides Post, Camps and Stations connectivity to the Defense Information Systems (backbone) Network and satellite services; mission unique dedicated telecom links; and leased “800” and toll call services ... for BC, CSS, Intel, Admin ...



Legend: **G** Meets required capabilities
A Partially meets required capabilities
R capabilities
 Doesn't meet required capabilities

Does:

- Fund essential services
- Meet Reserve Component requirements

Does Not (Risk):

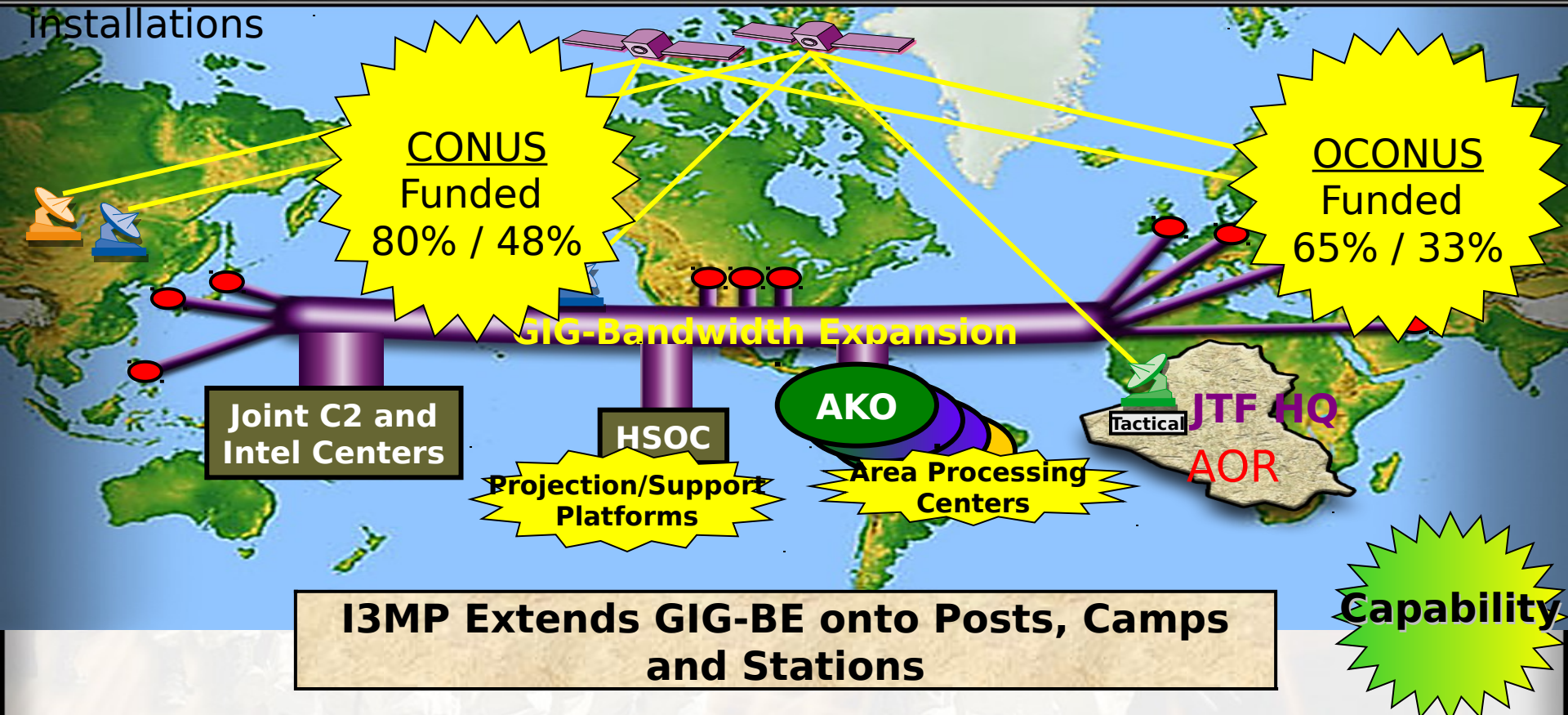
- meet all Army SIPR needs...

Supported through year end funding....

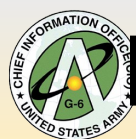


Installation Information Infrastructure Modernization Program (I3MP) Realignment

Program Capability: Provides secure voice and data access and capability for operations, training, and sustainment activities on CONUS and OCONUS installations

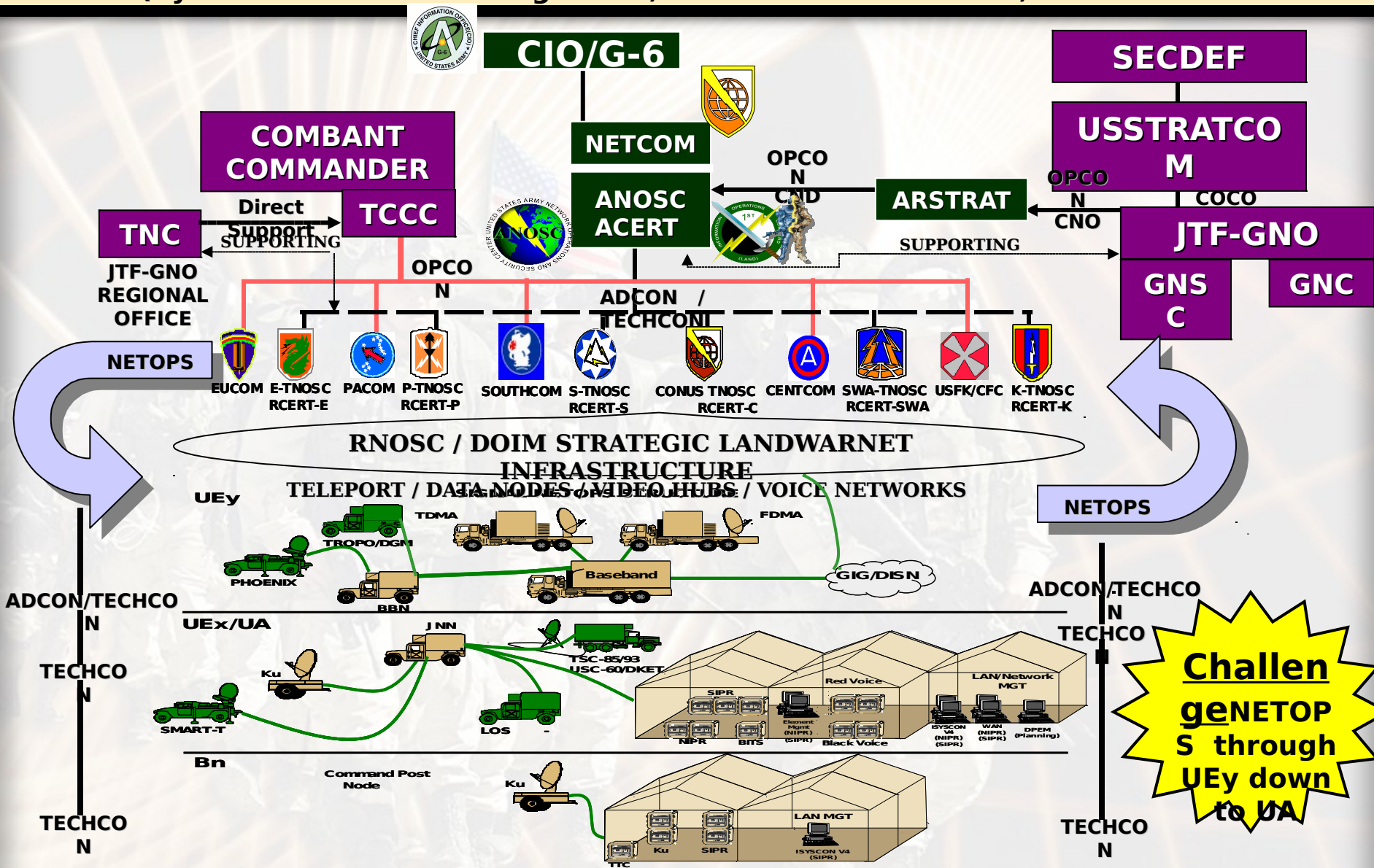


- Critical Issues supporting the I3MP Management Plan Realignment - Due 2 Aug**
- Identify UA/UEX/UEY infostructure requirements / DOIM support to Modular F
 - Support Global Basing Study and BRAC



Network Operations (NETOPS)

(System & Network Management; Information Assurance; Information Dissemination)



NETCOM Fights Network "Jointly" as an Enterprise

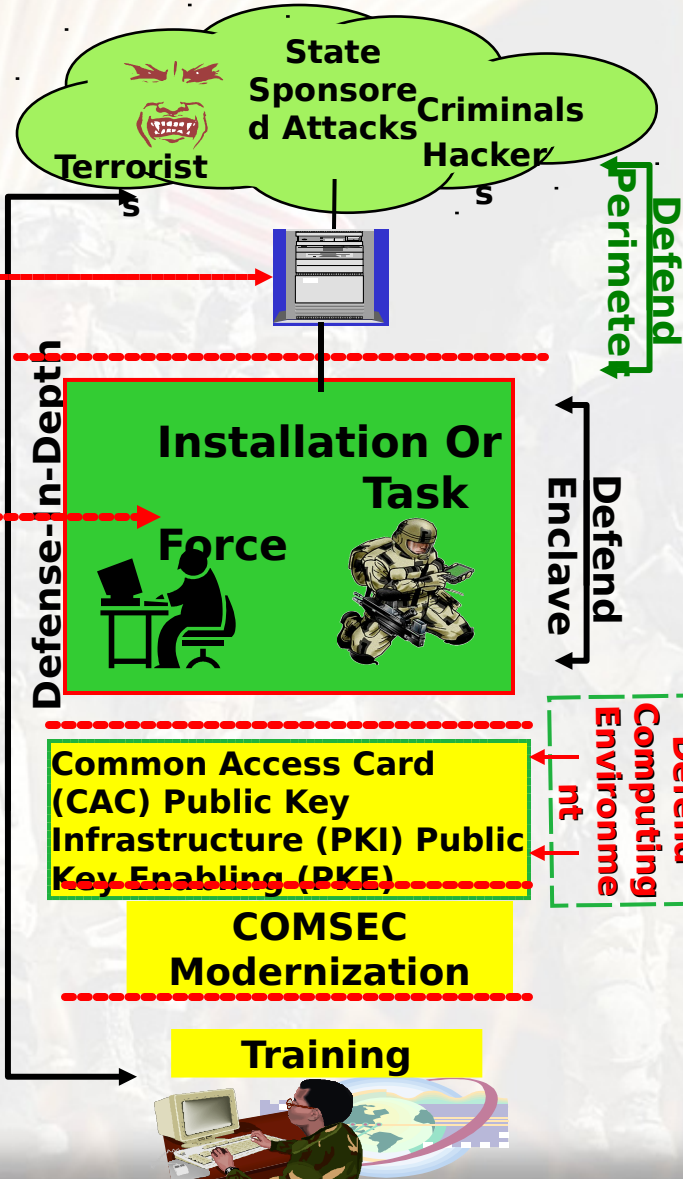
Army Information Assurance (IA)

Will Continue to Grow With Threat and Network
The Threat



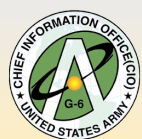
TLA - Attack Sensing and Warning Global Monitoring. Using 1998

Technology Vulnerability Management Scanning, Remediation, Reporting Tools, and Installation / DOIM IA Personnel



Capability
Funded to 51%

Maintains Current Capabilities Shortfalls in Technology Refresh/ Replacement, People, and Enhancements Validated as Critical - Level 1 Shortfalls Being Forwarded to DoD as an Above-the-Line Unfinanced Priority 1



ARMY KNOWLEDGE

ONLINE

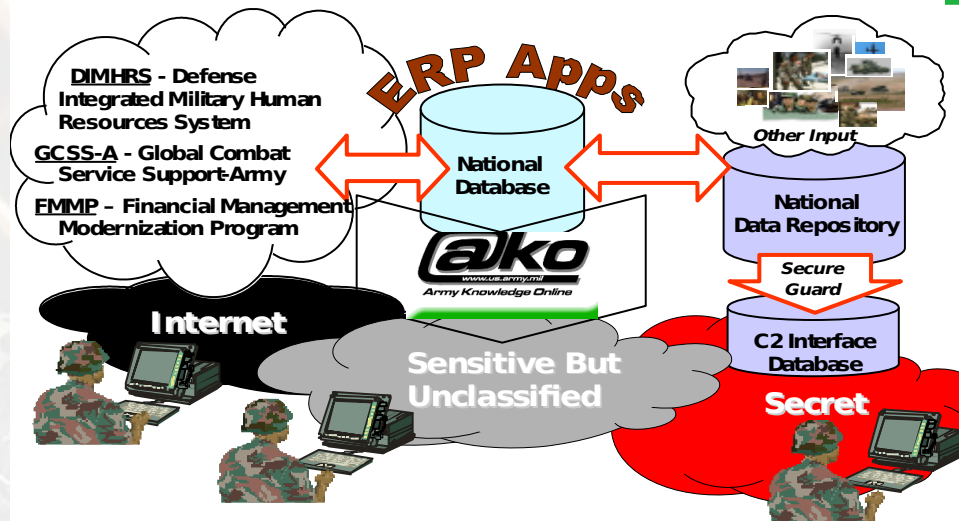
Net-Centric Portal for Army Knowledge, Systems, and Services



Leveraging Enterprise Applications



Individual Soldier Usage
Week of 5-12 July 04



	42%		43%
	55%		41%
	53%		45%
	36%		43%
	46%		53%

**No
Funding
Issues**

**COOP is
Operational
Primary under upgrade
at the old site**

Supporting the Global War on Terrorism

- Universal Secure Access to Information (NIPR/SIPR)
- Force Development & Protection thru Knowledge

Sharing and Collaboration:

+ RC Mobilization / Training and Lessons Learned

+ Arab Translators, USAR, NG, CID

+ HUMINT Search Engine / I2 Intel Updates

Supporting the Army's Business Areas

- Access to Business Systems (e.g., DIMHRS)
- Single Sign-On / Authentication to functional domain information
- Secure sites for Family Readiness Groups

Self-Service Information 24x7:

Medical Readiness

Personnel Records

Finance (DFAS)

Computer-Based Training

The Army's LandWarNet

Global Information Grid

GuardNet

ARNet

Joint Enablers
Sustaining Base

✓ **Operational / Tactical / Soldier**

- Operational Network Evolution
- Federation of Networks (Modularity)
- The Soldier

BCT

UEx

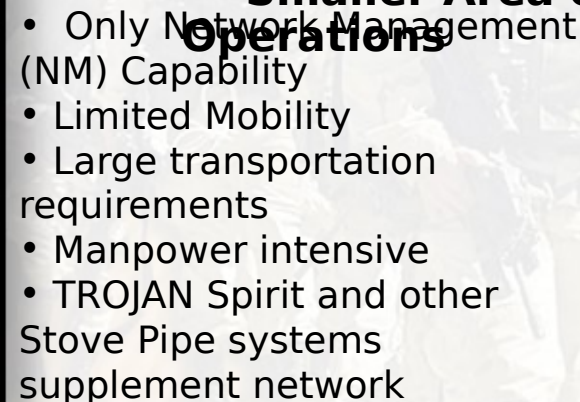
UEy

Foxhole to Factory

WIN-T

Post-War Linear Battlefield

- Only Network Management Operations

- 
- Only Network Management (NM) Capability
 - Limited Mobility
 - Large transportation requirements
 - Manpower intensive
 - TROJAN Spirit and other Stove Pipe systems supplement network

Linear/Non-linear Battlefield Area of Operations

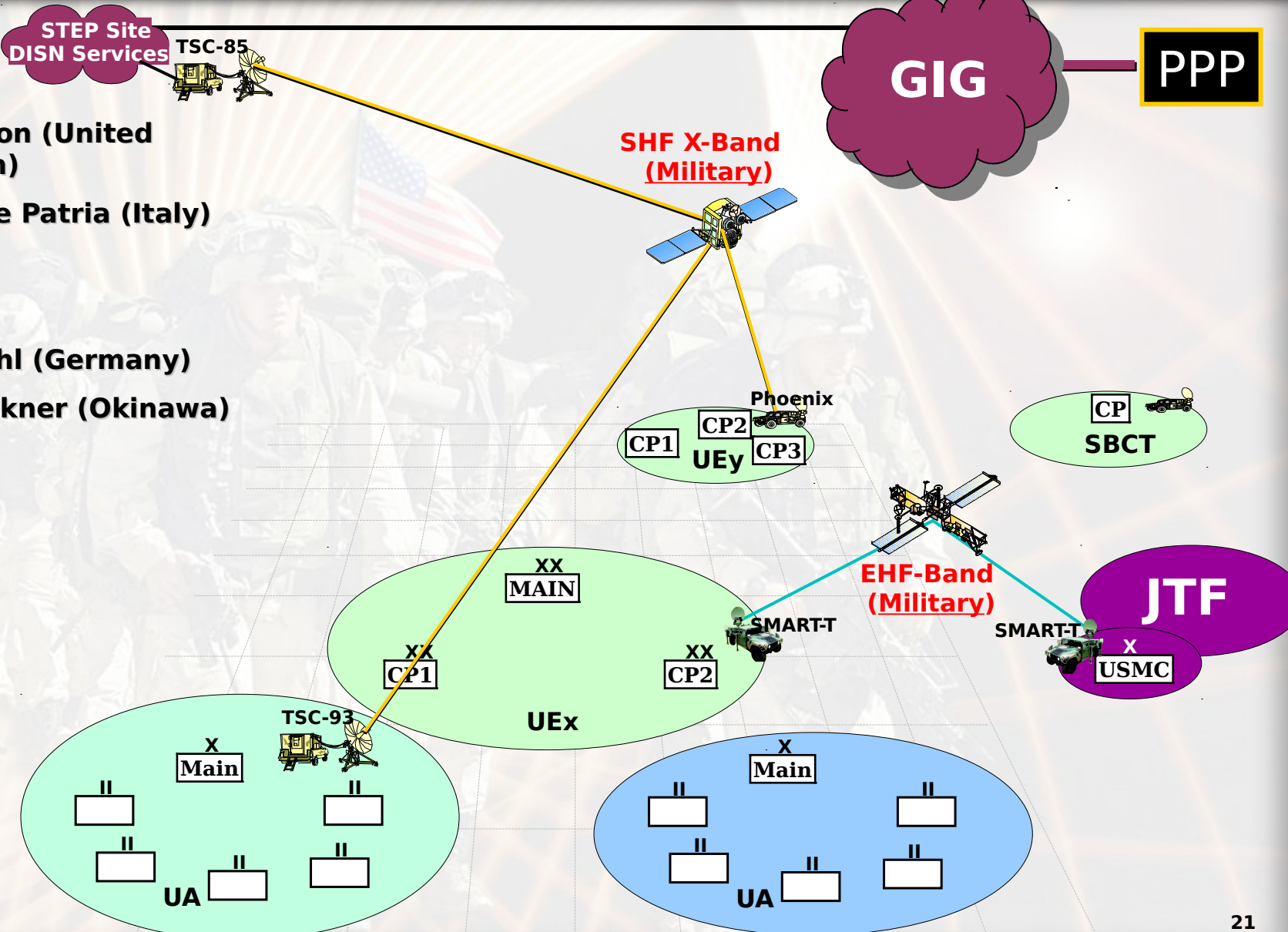
- Move thousands an IP
- Full NETOPS Capability (Net

- Migration towards an IP based network
- **Increased NLOS** transmission systems
- IP capability (data+voice) at Division, Brigade and Battalion CPs
- Joint/Coalition/Current MSE interface provided through **Joint Network Node**
- SIPR/NIPR/Coalition service at Bde/Division CPs
- SIPR Voice/Digital service only at all Bn CPs

- Full NETOPS Capability (Net Management, (IA, IDM) to include Speed of Service and QOS
- On the Move Communications
- Network Services integrated and embedded Within Warfighting Platforms
- Optimal use of manpower utilizing automated Services
- Fully integrates all systems to make one Network (Net-Centric)

Adjusting to Modularity

JNTC-S: Reach-Back / Joint Connectivity



JNTC - S1



JNTC-S: Blue Force Tracking / Battle Command On The Move

STEP Site
DISN Services

Croughton (United Kingdom)
Lagos Di Patria (Italy)
Qatar
Bahrain
Landstuhl (Germany)
Fort Buckner (Okinawa)

INMARSAT
L-Band Satellite (Commercial)

GIG

PPP

Air Force
Did Not Support
Army
Request to put
BFT on GPS 3

Must move off
commercial
reliance

LEASE
CIRCUIT
or DISN

L-Band Hub
in Sanctuary

ISDN
LINES

Vendor
L-Band Hub

Trojan
Spirit

CP
SBCT

CP1 CP2
UEy CP3

XX
MAIN

XX
CP1

XX
CP2

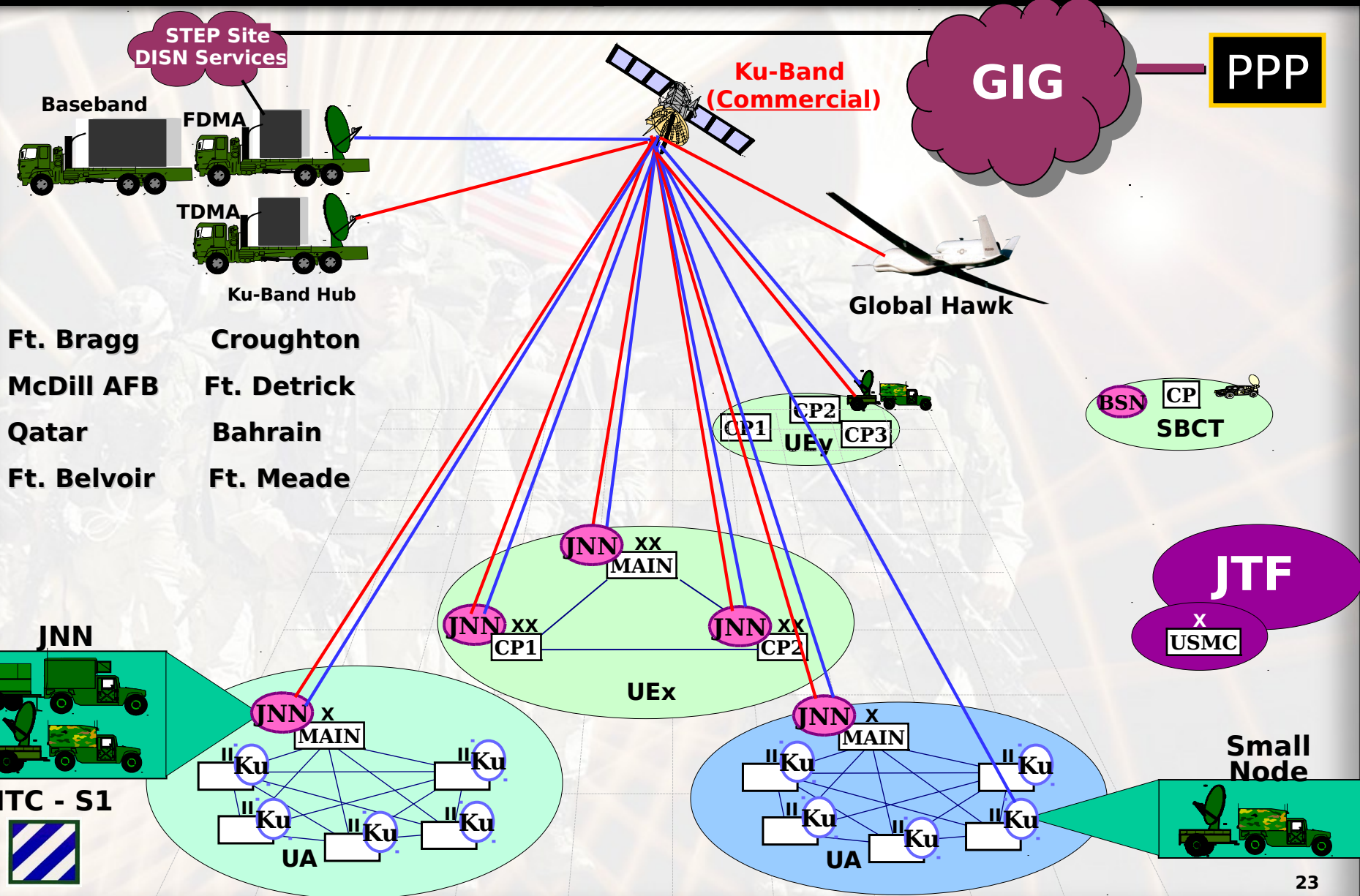
UEx

JTF

X
USMC

JNTC - S1





JNTC-S: Intel (Trojan Spirit)

**STEP Site
DISN Services**

Croughton (United Kingdom)

Lagos Di Patria (Italy)

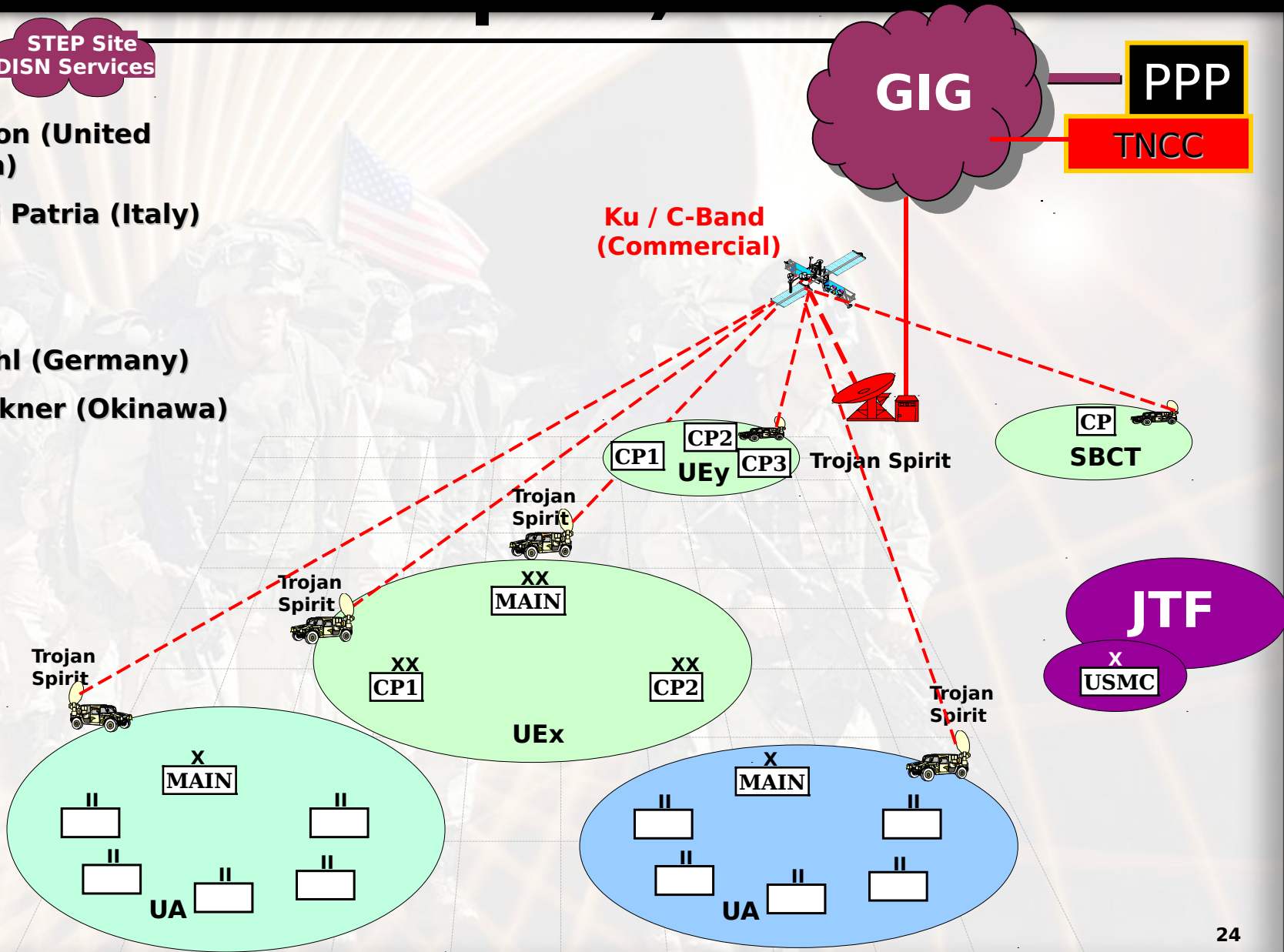
Qatar

Bahrain

Landstuhl (Germany)

Fort Buckner (Okinawa)

JNTC - S1



JNTC-S: Connect the Logistician

**STEP Site
DISN Services**

(Supports Medical, Logistics, Personnel)

Croughton (United Kingdom)

Lagos Di Patria (Italy)

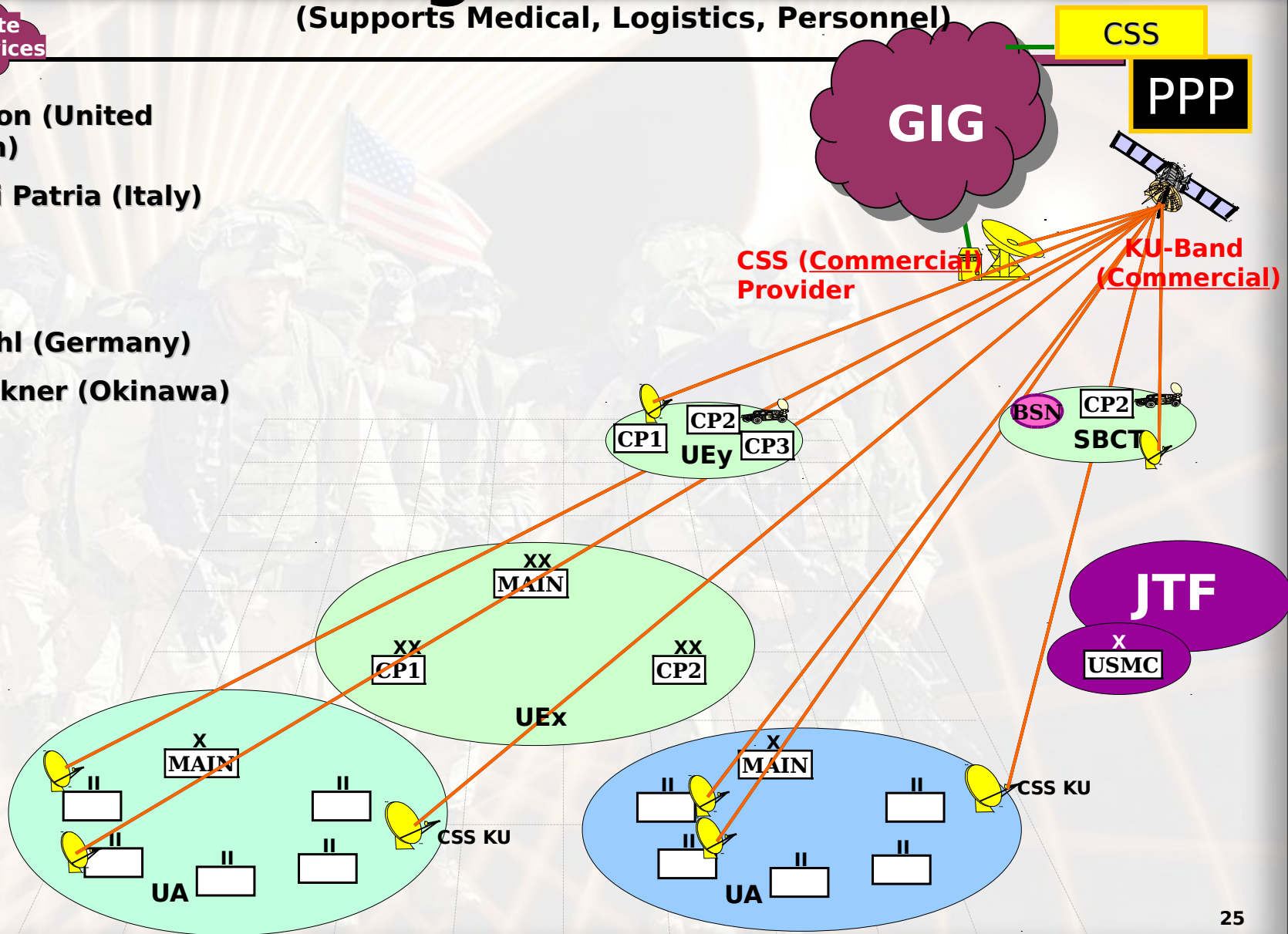
Qatar

Bahrain

Landstuhl (Germany)

Fort Buckner (Okinawa)

JNTC - S1



JNTC-S: GBS (Transportable Ground Receiver Suite)

**STEP Site
DISN Services**

Croughton (United Kingdom)

Lagos Di Patria (Italy)

Qatar

Bahrain

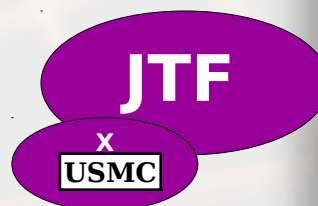
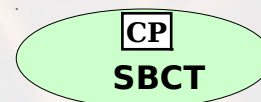
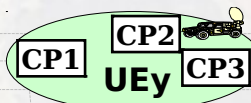
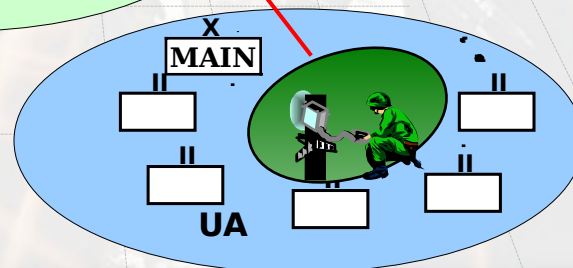
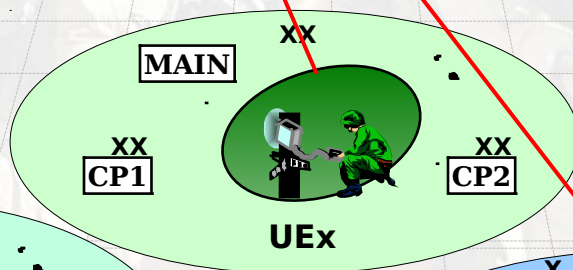
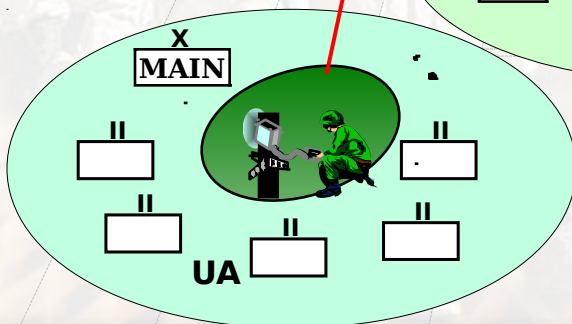
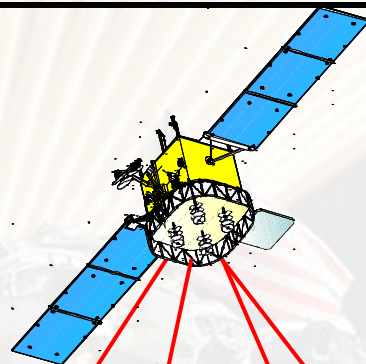
Landstuhl (Germany)

Fort Buckner (Okinawa)

**Primary Injection
Point (PIP)**

**Norfolk
Wahiawa
Sigonella**

JNTC - S1



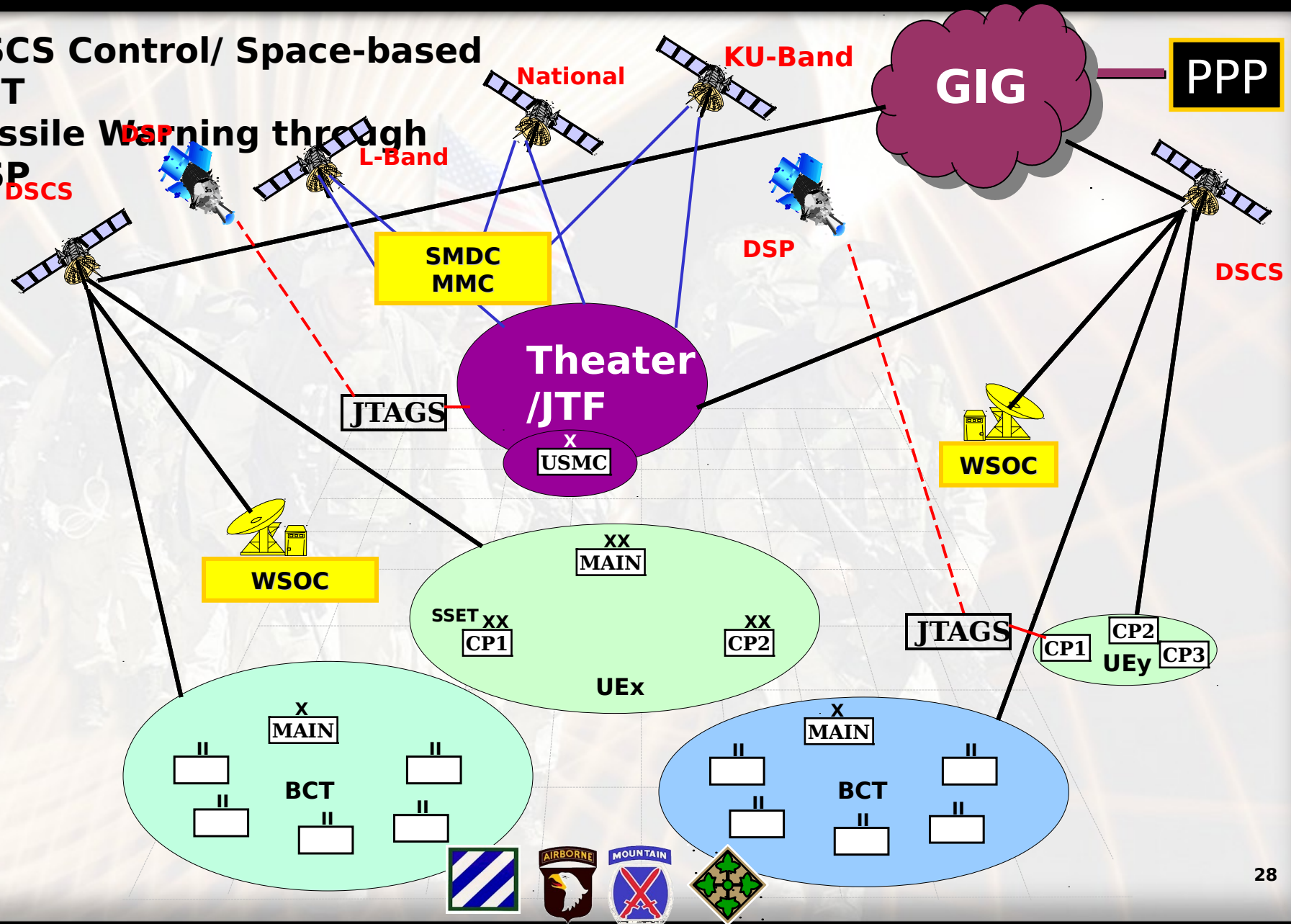


**STEP Site
DISN Services**



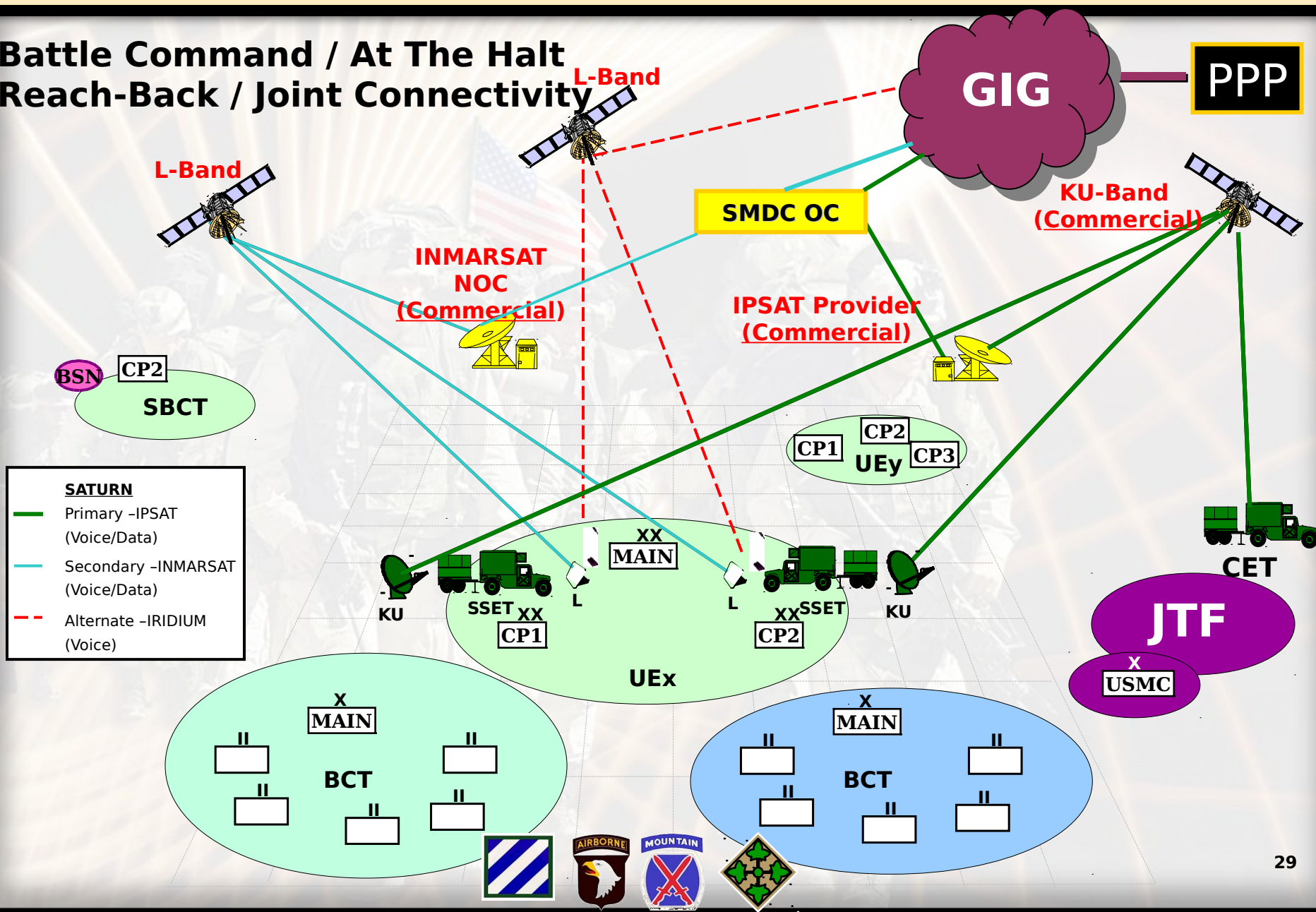
SMDC Space Support - Part 1

DSCS Control/ Space-based
BFT
Missile Warning through
DSP



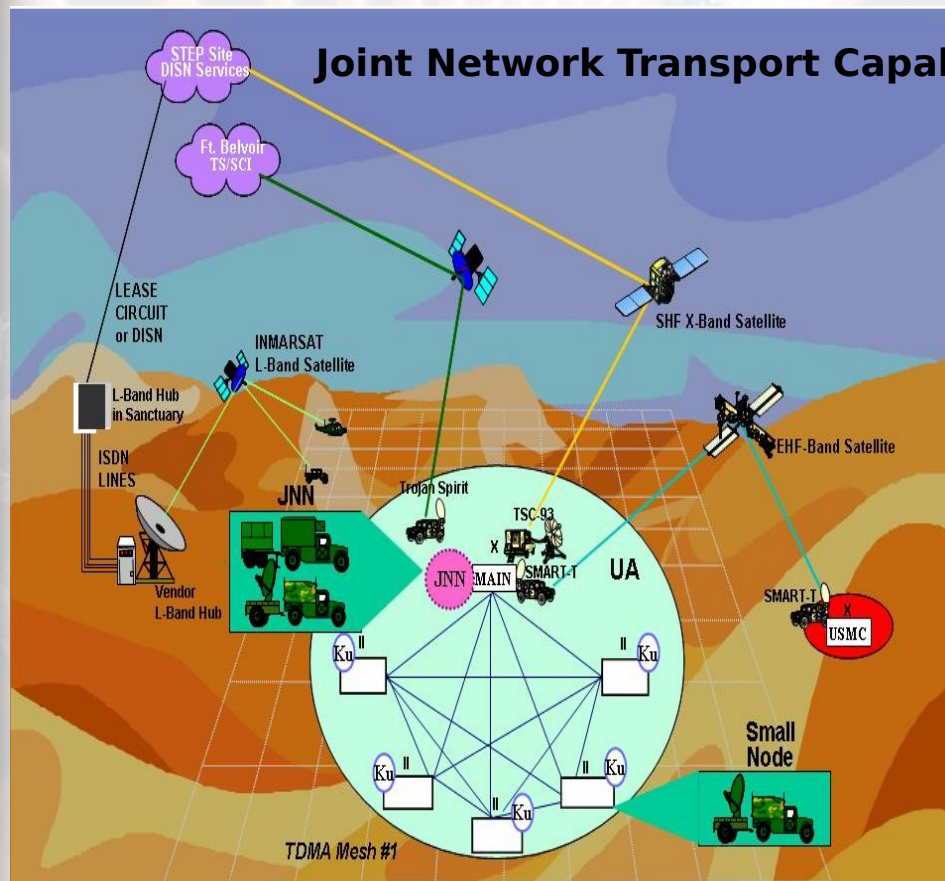
Space Support Element Network (SSEN) - Part 2

**Battle Command / At The Halt
Reach-Back / Joint Connectivity**



Federation of Networks: Summary

Capability: Develop and field capabilities (BC, Intel, CSS, BFT) to leverage and enable interdependent network-centric warfare and joint connectivity.



Shared situational understanding

- Move combat information into the analysis centers at all echelons
- “Soldier as a Sensor”
- Provide operational sustainment Battle Command with reach back capability and initial network visibility
- Connect CSS Automated Systems at all echelons
- Converge from Federation to **Enterprise soonest!!!**



CSA's Vision: Bring FCS transport capabilities to units quickly ~ improve the information technology strength to troops for the global war on terrorism

The Soldier

ICOM Radio (F40)



- CSA Guidance: Inexpensive hand held radio (VoIP) with imbedded COMSEC
- DAMO-AOC Approval Message DTG 061320Z JUL 06
- Symptomatic Relief for OIF/OEF

Lightweight, Integrated, Networked Communications for Seamless Information Sharing Within the Army's SBCTs & UAs until JTRS is available

Army has submitted waiver request for 6000 EPLRS Micro-Lites for first 4 SBCTs.

A starburst graphic with a red-to-yellow gradient, containing the text 'Army Needs Interim Solution Now'.

**Army Needs
Interim
Solution Now**

"Nest the Soldier in the Enterprise Network"

Building AC/RC BCT(UA) and UEx

	FY04			FY05			FY06			FY07		
Division (UEx)												
Brigade (UA)	 3 rd ID	 101 st ABN	 10 th Mt	 4 th ID	 10 th Mt		 25 th ID	 173 rd ABN	 1 st CAV	 25 th ID	 82 nd ABN	 3 ACR
ARNG (UEx)												
ARNG (UA)												

MANEUVER UAs AND SUPPORT UAs

MANEUVER UAs

SUPPORT UAs

3 ID Funded

Pending Supplemental

- Long lead items for 10th and 101st are funded



Consolidated Analysis

Joint Enablers

- GIG-BE
- SATCOM
- Teleport

Capability

Funding

Future Force Impact

Mitigation

Low

Pending Study

High

Timely Delivery Schedule

Funded Across POM

Sustaining Base

- Long Haul
- Power Projection Platforms
 - I3MP (CONUS)
 - I3MP (OCONUS)
- AKO
- Information Assurance

Low

Pending Study

High

I3MP, BRAC
Installation Sequence List

AKO Senior Leader Off-Site

High

Funding IA Requirements
(HW/SW tools, training)

Operational / Tactical

- Modularity
- Network Management
- Soldier

Low

Pending Supplemental

Low

Pending UEy Design

High

JTRS ONS Waiver

Legend **G** Meets required capabilities
A Partially meets required capabilities
R Doesn't meet required capabilities

**Pending POM & Continuing Emergency
Supplementals**



Summary



- Global reachback critical to warfighter support . . . , e.g. SATCOM delivery schedule, protected communications, and O&M for Teleport terminal sites
- Extended dependency on commercial SATCOM is costly
- I3MP must be synchronized with Integrated Global Presence Basing Strategy (IGPBS)
- Convergence of BC, Intel, CSS, and BFT into WIN-T **must** continue, and addressed across DOTMLPF
- Good News - long lead item resourcing for 101st, 10th -- *heavy reliance remains on “supplemental” funding*
- JNTC Spirals (3ID, 101st, 10th) on track ~ accelerates fielding of FCS transport capabilities

IA Shortfalls Validated as Critical ~ Must Be Unfinanced
Priority One

QUESTIONS ?

BACK -UP

Operational Priorities

Capability

- Top Down
 - Joint Interdependence and Coalition Interoperability
 - Direct access to JTF
- Top 7 plus 1
- Blue/Red Situational Awareness
- Networked Battle Command to PL/PSG/SQD Leader

Required Network Services

- Joint secure voice and data
- OTH and ATH network access
- OTM secure voice and data
- Soldier to platform/leader voice
- Access to Joint “services”
- Collaboration

Gap

- D**-Non-standard CPs
- O**-
- T**-
- M**-Limited MBCOTM to Cdrs
 - BFT limited distribution
- L**-
- P**-
- F**-

Mitigation Strategy

- Network ACR
- BC “Good Enough”
 - FBCB2-BFT “OIF” level to Key Leader over time
- Converge to WIN-T / JTRS



Intelligence Functional Area



Capability

- Shared situational understanding, to include ability to receive/provide Tactical Overwatch intelligence support for operationally committed Bns and Bdes- reach to/from installations
- Collaboration
- Access to still and motion imagery, and MASINT, SIGINT, and HUMINT products and databases

Source: How the Modular Army Fights

Required Network Services

- Collateral Secret voice and data access
- TS/SCI voice, data, VTC and network access

Gap

- D**-No detailed Modularity doctrine
- O-
- T-
- M**-Insufficient/no TS/SCI (None at Bn & below) (Limited at installations (see Installation Quad Chart))
 - Insufficient Collateral Secret
- L-
- P**-Signal soldiers do not routinely have TS/SCI access
- F-

Mitigation Strategy

- Battle Command “Good Enough”
 - Network ACR Solution (Bridge to Future Network)
 - Converge to WIN / JTRS
 - Trojan Spirit / JNN



Focused Logistics



Capability

- Provide operational sustainment command and control with reach-back capability and initial network visibility
- Connect CSS Automated Systems at all echelons
- Establish Battle Command Interoperability for CSS Systems
- Establish Joint Focused Logistics Interoperability for CSS Systems

Required Network Services

- Sensitive But Unclassified data for CSS at all echelons
- Joint secure voice and data at UA and above
- Global ITV & BCOTM for LOG

Gap

- D-
- O-
- T-
- M-BC communications for LOG units
 - SBU data connectivity for CSS functions
 - MTS & FBCB2 for LOG units
 - Global NAT
 - I3MP for AMC sites

Mitigation Strategy

- Network ACR Solution (Bridge to Future Network)
- Connect the Logistician
- Battle Command "Good Enough"
- MTS "Good Enough"
- Develop NETOPS/CONOPS
- Converge to WIN / JTRS